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EXAMINER

KAWSAR, ABDULLAH AL

ART UNIT	PAPER NUMBER
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2195

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/784,866	Applicant(s) SCHMIDT ET AL.	
	Examiner ABDULLAH AL KAWSAR	Art Unit 2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 and 28-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 and 28-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-25 and 28-30 are pending.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claim 29 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

4. Claim 29 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. In claim 29, the preamble claimed “system”, is software per se, as it is not tangibly embodied on any sort of physical medium. The claim recites "means initiating", “means setting”, “means determining”, wherein these “means” limitations are described as being software in the specification. Applicant is suggested to amend the claim including “a storage medium” or “processor”. Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-8, 14-20, 22-25 and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borkenhagen et al.(Borkenhagen) US Patent No. 6076157, in view of Fuchs et al.(Fuchs) US Patent No. 5530802.

7. As per claim 1, Borkenhagen teaches the invention substantially as claimed including a computer-accessible memory medium that stores program instructions for performing time-bounded execution of a program, where the program instructions are executable by a processor to perform (col, 6, lines 57-62; col 5, lines 31-35):

initiating a timed program execution process, wherein the timed program execution process is operable to execute a program in a time-bounded manner (abstract, lines 7-12);

initiating a timeout process, wherein the timeout process is operable to preempt the execution process to interrupt execution of the program(col 5, lines 45-51; col 5, lines 31-35);

configuring a timeout event, wherein the timeout event is an event indicating a timeout condition for the program (col 5, lines 58-66; col 6, lines 4-7);

the timed program execution process performing a time-bounded execution of the program(col 5, lines 31-35), comprising:

b) if the timeout event has not occurred, executing the program, wherein, during said executing, if the timeout event occurs (col 5, lines 66-67 through col 6, lines 1-4),

e) performing a program exit procedure (col 16, lines 22-27);

disabling the timeout event (col 16, lines 1-3);

terminating the timeout process (col 16, lines 22-24); and

terminating the timed program execution process(col 17, lines 2-15).

8. Borkenhagen does not specifically disclose a) determining and storing a rollback state for the program; c) the timeout process setting the timed program execution process to the rollback state, and disabling the timeout event; and d) the timed program execution process resuming executing the program based on the rollback state with a timeout condition.

9. However, Fuchs teaches determining and storing a rollback state for the program (col 2, lines 51-56);

c) the timeout process setting the timed program execution process to the rollback state, and disabling the timeout event (col 3, lines 24-30); and

d) the timed program execution process resuming executing the program based on the rollback state with a timeout condition(col 3, lines 30-34).

10. It would have been obvious to a person of ordinary skill in art at the time of invention was made to incorporate the teaching of Fuchs into the method of Borkenhagen to have application execution with rollback state for any failure. The modification would have been obvious because one of the ordinary skills of the art would want to be able to utilize the CPU performance by using the rollback state or any application that has failed or timeout for any event.

11. As per claim 2, Fuchs teaches e) further comprises: clearing the rollback state (col 27, lines 21-30).

12. As per claim 3, Borkenhagen teaches the program instructions are further executable to perform: iteratively performing said time-bounded execution of a plurality of programs (col 5, lines 58-67 through col 6, lines 1-17).

13. As per claim 4, Borkenhagen teaches said iteratively performing comprises: for each of the plurality of programs, performing a) through e) (col 5, lines 10-14; col 6, lines 1-7).

14. As per claim 5, Borkenhagen teaches wherein e) further comprises: if the timeout event has occurred, storing an indication of a timeout condition (abstract, lines 7-12); and

wherein the timed program execution process performing a time-bounded execution of the program comprises: performing a) through e) if the timeout condition is not indicated (abstract, lines 9-15).

15. As per claim 6, Borkenhagen teaches the program instructions are further executable to iteratively perform:

setting a timeout event (col 5, lines 58-66);

the timed program execution process performing a time-bounded execution of the program (abstract, lines 7-12); and

disabling the timeout event (col 16, lines 1-3).

16. As per claim 7, Borkenhagen teaches wherein the timeout process executes at a first priority level, and wherein the program instructions are further executable to perform (abstract, lines 15-18):

setting an execution priority level of the timed program execution process to a second priority level, wherein the second priority level is below the first priority level (col 10, lines 51-54).

17. As per claim 8, Borkenhagen teaches said performing a time-bounded execution of the program further comprises:

storing an original execution priority level of the timed program execution process prior to said setting the execution priority level of the timed program execution process (col 10, lines 19-25); and

wherein e) further comprises: restoring the execution priority level of the timed program execution process to the original execution priority level (col 19, lines 25-41).

18. As per claim 14, Borkenhagen teaches said initiating the timeout process is performed during said executing (col 5, lines 58-63).

19. As per claim 15, Borkenhagen teaches the program comprises one or more sub-programs (col 5, lines 41-45); and

wherein b) further comprises: performing a) through e) for each of the one or more sub-programs (col 5, lines 58-67 through col 6, lines 1-18).

20. As per claim 16, Borkenhagen teaches said initiating the timeout process is performed by the timed program execution process (abstract, lines 7-12; col5, lines 58-63).

21. As per claim 17, Fuchs teaches the rollback state comprises: a rollback point, comprising an execution point in the program, and an execution state of the timed program execution process at the rollback point (col 2, lines 57-67).

22. As per claim 19, Borkenhagen teaches j) further comprises e)(col 16, lines 22-27).

23. As per claims 18 and 20, they have similar limitations as of claim 1 above. Therefore, they are rejected under the same rational as of claim 1 above.

24. As per claim 22, Borkenhagen and Fuchs do not specifically teach the program comprises a machine vision application.

25. It would have been obvious to one of the ordinary skill in the art at the time of the invention to have the application program as machine vision application to monitor the system execution and behavior.

26. As per claim 23, Borkenhagen teaches the program comprises a numerical analysis application (col 1, lines 54-60).

27. As per claim 24, Borkenhagen and Fuchs do not specifically teach the program comprises a text-based program.

28. It would have been obvious to one of the ordinary skill in the art at the time of the invention to have the application program as text based program to be able to modify the program steps with command.

29. As per claim 25, Borkenhagen and Fuchs do not specifically teach the program comprises a graphical program.

30. It would have been obvious to one of the ordinary skill in the art at the time of the invention to have the application program as graphical program with graphical interface to utilize the user friendly program layout method.

31. As per claim 28-30, they have similar limitations of claim 1 above. Therefore, they are rejected under the same rational as of claim 1 above.

32. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Borkenhagen et al.(Borkenhagen) US Patent No. 6076157, in view of Fuchs et al.(Fuchs) US Patent No. 5530802, and further in view of Chamberlain (Chamberlin) US Patent No. 6438749.

33. As per claim 21, Borkenhagen and Fuchs does not specifically disclose receiving a disable request from the program to disable the rollback state; disabling the rollback state in response to said disable request; receiving an enable request from the program to enable the rollback state; enabling the rollback state in response to said enable request; and updating the rollback state for the program.

34. However, Chamberlain teaches wherein said executing the program further comprises(c): receiving a disable request from the program to disable the rollback state (col 16, lines 16-28); disabling the rollback state in response to said disable request (col 16, lines 37-42); receiving an enable request from the program to enable the rollback state (col 3, lines 1-2); enabling the rollback state in response to said enable request (col 3, lines 9-12); and updating the rollback state for the program (col 15, lines 65-67 through col 16, lines 1-5).

35. It would have been obvious to a person of ordinary skill in art at the time of invention was made to incorporate the teaching of Chamberlin in to the combined method of Fuchs and Borkenhagen to be able to enable or disable rollback option on any application. The modification would have been obvious because one of the ordinary skills of the art would want to be able to enable or disable rollback options on a system when the system to be able to bypass a critical halt or not having enough resources for rollback state.

Allowable Subject Matter

36. Claims 9-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten to overcome the rejections(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this office action and including all of the limitations of the base claim and any intervening claims.

Response to Arguments

37. Applicant's arguments filed 04/08/2008 have been fully considered but they are not persuasive.

38. In remarks applicant argues that:

(1) Claim 29 cannot be "software per se" since structural elements are included in the claim, per the relevant statute.

(2) Borkenhagen fails to teach performing a program exit procedure(after rollback).

(3) Fuchs fails to teach "the timeout process setting the program execution process to the rollback state and disabling the timeout event; and the timed program execution process resuming executing the program based on the rollback state with a timeout condition".

39. Examiner respectfully disagree to applicant:

i. as to point (1), applicant's argument is not persuasive because applicants failed to rebut the Examiner's interpretation of means in the "means plus function" limitations of claim 29. In particular, Applicant failed to specifically identify where in the specification at least one of the

Art Unit: 2195

means is identified as being a hardware element such that the structure of at least one claimed "means" would be limited to hardware components. Therefore, Applicant's argument amounts to a general allegation that means identified in the "means plus function" language are limited to hardware means. Such argument is not in compliance with 37 CFR 1.111(b). Thus, the rejection is maintained.

ii. as to point (2), applicant supports his argument with mentioning that Borkenhagen only teaches condition when thread may or may not switch and does not teach program exit procedure **after rollback**. The claimed limitation is broad and does not specify the steps to be performed for the exit procedure and does not recite performing the steps "**after rollback**" operation. The examiner interprets the limitations as conditions of program or thread exit or thread switch. A thread switch procedure terminates a thread and switches to a different thread which means exiting the executing thread or program.

iii. as to point (3), applicant supports his argument with mentioning that Fuchs does not disclose any rollback settings based on timeout event and does not teach disabling the timeout event after rollback. Fuchs teaches about application fault recovery with checkpoints and rollback state including bypassing the fault state (abstract; col 2, lines 30-43). Fuchs teaches the application reorder which means re-execute the failed portion of the program from the checkpoint or rollback from the checkpoint bypassing(disabling the condition) condition or event that caused the application or process to fail (col 3, lines 24-34). Fuchs also teaches application having a maximum time(timeout) state for response as one of the criteria for process monitoring from failure(figure 4a; col 11. lines 44-53).

Conclusion

40. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

41. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

42. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abdullah-Al Kawsar whose telephone number is 571-270-3169. The examiner can normally be reached on 7:30am to 5:00pm, EST.

43. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng Ai T. An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

44. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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